

2018 Ozone Season Review and Looking Ahead

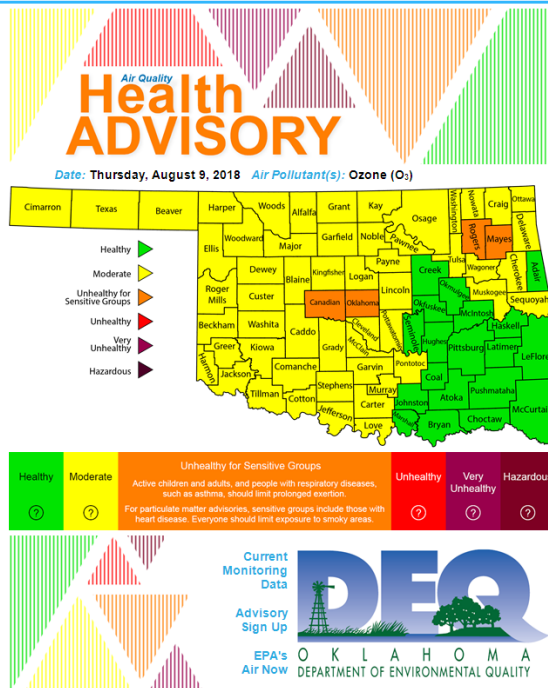
Curt Goeller
Monitoring Section East Manager

Ozone Advisories/Watches

2018

Health Advisories Issued for Ozone
36 days

Ozone Watches Issued
OKC-10 Tulsa-8 Lawton-2



The Oklahoma Department of Environmental Quality is issuing an ozone watch for the Oklahoma City metropolitan area for Thursday, August 9, 2018. This watch will initiate the issuance of an "Ozone Alert Day" for the Oklahoma City area by the Association of Central Oklahoma Governments (<http://www.acogok.org>).

This ozone watch is a prediction that concentrations of ozone will approach levels of concern over the next 24 hours. Sensitive individuals should plan accordingly. When these levels are reached, an Air Quality Health Advisory will be issued. Health Advisories are notifications that levels of ozone have reached unhealthy levels. They are based on near real time monitoring values.

Persons with lung or heart disease should be aware that increased pollution may cause them to experience adverse health effects. Ozone affects people differently. Unhealthy levels of ozone can cause throat irritation, coughing, chest pain, shortness of breath, increased susceptibility to respiratory infection and aggravation of asthma and other respiratory ailments. These symptoms are worsened by exercise and heavy activity. Learn your limits. Children, older adults and people with underlying lung diseases, such as asthma, are at particular risk of suffering from these effects. As ozone levels increase, the number of people affected and the severity of the health effects also increase.

To help avoid ozone formation and reduce your exposure:

- Car pool or ride the bus to work or school.
- Walk or ride a bicycle for short trips during morning hours when ozone levels are lower.
- Wait until evening to refuel your automobile or mow your lawn.
- Arrive and leave work a little earlier or later than usual to decrease rush-hour traffic.
- Drive your most fuel efficient vehicle.
- Make sure gas caps on vehicles, lawn mowers and other equipment seal properly.
- Trip chain, combine errands to make one trip instead of several.
- Limit idling time in your vehicle.
- Limit the use of drive-through windows.
- Limit the use of charcoal starter fluid and other products that contain hydrocarbons.
- Postpone normally permissible outdoor burning to a non-Ozone Watch day.
- Limit or postpone the use of two-cycle engines (i.e. lawnmowers, weed eaters, motor boats and motor cycles).

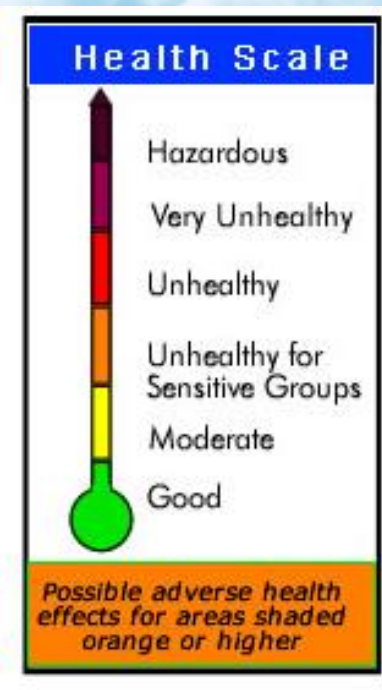
An Air Quality Health Advisory will be issued if/when ozone levels reach unhealthy for sensitive groups level.

To receive an Air Quality Health Advisory email sign-up at:

<http://www.deq.state.ok.us/aqdnw/AdvisorySignUp.htm>

Air Quality Health Advisories

- Real-time Email and Text notification to subscribers
- All continuously monitored air pollutants
- 24 hours a day, 365 days a year
- Triggered at **USG level** of AQI



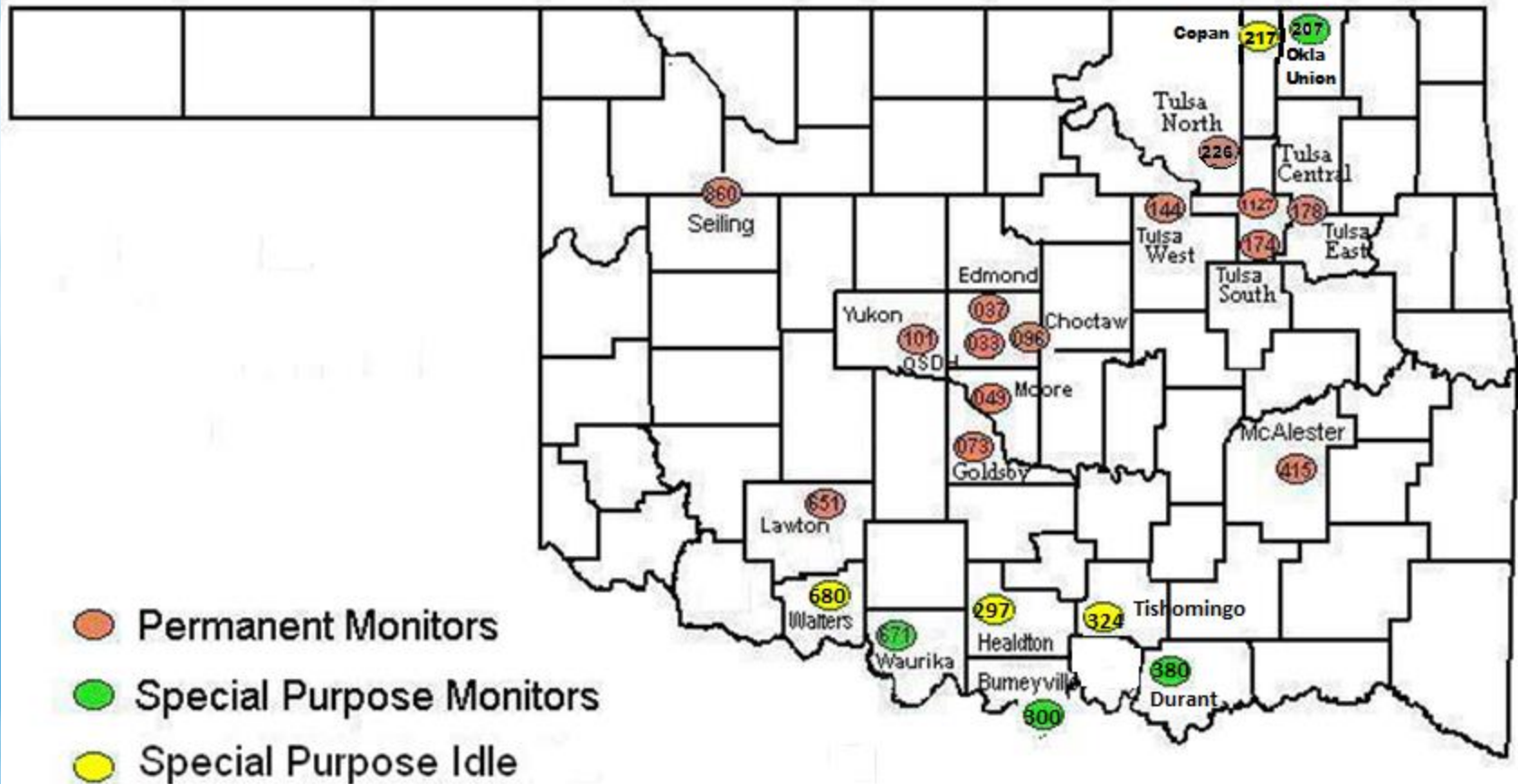
- Sign-up for Advisories @
<http://www.deq.state.ok.us/aqdnew/AdvisorySignUp.htm>

Ozone Watch (Alert)

- Forecast for tomorrow
 - Ozone levels will reach AQI Unhealthy for Sensitive Groups category or worse



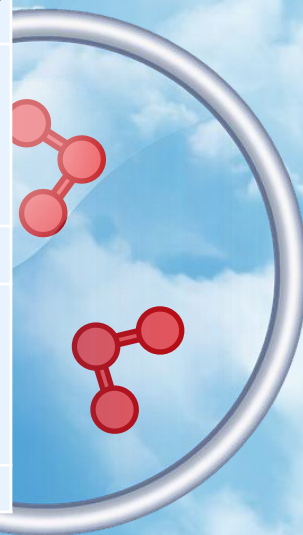
2018 Oklahoma DEQ Ozone Monitoring Network



How did we do?

How does it compare?

# Days	Year	OKC Area	Tulsa Area	Lawton Area	Statewide
8 hour Ozone Averages over 0.070 ppm	2015	2	2	0	5
	2016	2	2	0	7
	2017	6	1	1	10
	2018	11	11	4	27
Ozone Watches Issued	2015	0	0	0	
	2016	1	1	0	
	2017	4	3	1	
	2018	10	8	2	



Design Values and Critical Values

- **Design Value** is the fourth highest 8 hour concentration averaged for three consecutive years (2016, 2017 and 2018).
- **Critical Value** is the fourth highest 8 hour concentration (2019 ozone season) necessary to cause the Design Value (2017, 2018 and 2019) to **exceed the NAAQS**.
- **Ozone NAAQS: .070 ppm** Annual fourth-highest daily maximum 8 hour concentration, averaged over three years

Site	Design Value (ppm)	Critical Value (ppm)
Tulsa (1127)	0.065	0.078
Oklahoma City (1037)	0.070	0.068
Lawton (651)	0.066	0.074
Seiling (860)	0.068	0.074

Oklahoma Department of Environmental Quality



2018 OKLAHOMA Ozone

Highest 8 Hour Averages (ppm) through October 8, 2018

Site			1st	2nd	3rd	4th	2018	2019
2015 4th	2016 4th	2017 4th	(date)	(date)	(date)	(date)	Design Value	Critical value
Tulsa North* (226)			0.083	0.080	0.074	0.073	0.067	0.076
	0.064	0.064	20-Jul	19-Jul	7-May	9-Aug		
OKC North (1037)			0.084	0.077	0.072	0.072	0.070	0.070
	0.068	0.068	19-Jul	1-Aug	24-Apr	2-Aug		
Yukon (101)			0.085	0.079	0.077	0.076	0.069	0.068
	0.066	0.062	29-Jul	9-Aug	28-Jul	19-Jul		
Lawton (651)			0.077	0.076	0.076	0.072	0.066	0.074
	0.066	0.061	2-Aug	28-Jul	3-Aug	4-Aug		
Seiling (860)			0.075	0.074	0.074	0.073	0.068	0.074
	0.065	0.065	3-Aug	5-Jun	2-Aug	26-May		

What does it mean?

- Highest Ozone levels since 2013
- Good News: No 2018 Critical Values were recorded
- Bad News: 2019 Critical Values are lower
- OKC (Yukon site) 2019 Critical Value 0.068 ppm
- Seiling in worse shape than Tulsa! CV 0.074 ppm

Why did concentrations go up?

- Probable Factors:
 - **Weather:** heat, drought, wind speed and direction
 - **Smoke**/precursors from fires in western US and Canada
 - **VOC** emissions from new and renewed oilfield activity

What Now?

- **Possibilities:**
 - **Move one or two Special Purpose Monitors** from southern Oklahoma (Red River sites) to western Oklahoma to better understand the source and scope of the ozone patterns.
 - **Locate ozone monitor(s) with particulate monitor(s)** in strategic locations to enhance our knowledge about emissions from wildfires, oilfield drilling and fracking activities.



Questions?





Ozone Advance

**Department of Environmental Quality
Air Quality Division, Rules & Planning
October 10, 2018**

Presented by Nancy O'Brien

Overview

- What is Ozone Advance?
- Why should attainment areas work to address ozone if they are not required to?
- Who is participating in Oklahoma?
- Highlights of past submittals
- Questions

What is Ozone Advance?

Ozone Advance is a collaborative effort by EPA, states, tribes, and local communities to encourage emission reductions in ozone attainment areas, to help them continue to meet the National Ambient Air Quality Standard (NAAQS).

Program Goals:

- (1) Help attainment areas take action in order to keep ozone levels below the level of the standard to ensure continued health protection,
- (2) Better position areas to remain in attainment,
- (3) Efficiently direct available resources toward actions to address ozone problems quickly.

Why should attainment areas work to address ozone if they are not required to?

- Proactive
 - Could better position some areas to avoid a nonattainment designation
 - If eventually designated, could provide needed reductions that could result in a lower classification and/or that could feed into any eventual SIP
- EPA could consider early efforts as a factor in exercising its discretion to redesignate areas

Who is participating in Oklahoma?

- Oklahoma City Metro area
 - includes Canadian, Cleveland, Grady, Lincoln, Logan, McClain, and Oklahoma counties
- Tulsa Metro area
 - includes Creek, Okmulgee, Osage, Pawnee, Rogers, Tulsa, and Wagoner counties

Highlights - OKC

- Energy Conservation Program - DEQ received an award from Governor Fallin on November 10, 2015 for being the first state agency to hit the 20% energy savings goal
- Lawnmower Exchange Program – In 2013 and 2015 DEQ sponsored a program for citizens in the OKC metro area to exchange their old gas-powered lawn mower for a \$100 cash waiver toward the purchase of a new electric lawn mower. Nearly 200 old gas powered mowers were exchanged and recycled

Highlights – OKC (cont'd)

- The City of Edmond has been a leader in implementing several programs to help reduce emissions contributing to ozone, including:
 - Fleet Idle Reduction Directive
 - Free public transportation with CityLink Transit
 - Energy efficient new facilities
 - Urban Forestry with an enhanced Urban Canopy of trees that remove pollutants from the air
 - Bicycle promotion events

Highlights - Tulsa

- Tulsa's Ozone Alert! Program 2018 Campaign:
Theme "Let's KEEP our air Clear!"; 5 new commercials produced this year (three 15 second and two 30 second); Audio also used for radio ads; placed traditional TV/Radio/Print plus various digital advertising venues
 - The commercials themselves are available on ozonealert.com at the bottom of the page

Highlights – Tulsa (cont'd)

- July 2018 Launch of This Machine. Tulsa's BikeShare Program. Tulsa Bikeshare's Mission = "...convenient and affordable bicycle transit system to connect people to more places where they live, work and play in the Tulsa region."
- Tulsa EV infrastructure: At Sept. 2018 INCOG Board of Directors meeting, \$300,000 in local funding was approved for purchase and installation of electric vehicle charging equipment



???Questions???